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Mische et al.

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[54] THROMBOLYSIS CATHETER SYSTEM

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[57]

ABSTRACT

An apparatus and method for dissolving and removing material which tends to occlude a body passage way, such as an artery. The device employs a dual catheter system arranged in coaxial fashion. Each of the catheters has an inflatable balloon at its distal tip. Inflating the two balloons occludes the body passage way both proximal and distal to the treatment area, thus isolating it from fluid contact with the rest of the body. Because concentric catheters are used, the distance between the balloons and hence the size of the treatment area is adjustable. The thrombolytic agent is infused through orifices in the inner catheter in the region between the two balloons. A piezo electric device supplies ultrasonic agitation within the treatment area. A pressure device monitors the body passage way for unsafe conditions. Aspiration is accomplished through one or more lumens in the outer catheter. Ultrasonic agitation may be employed with the aspiration also to break up masses of material which may be too big to pass through the exit lumen cross section.

12 Claims, 9 Drawing Sheets

